

AUTHOR Romanov, S.N. 20-4-59/60

TITLE Reactive Changes Observed in the Neurons of the Encephalon
in the Course of Excitation of Peripheral Nerves.
(Reaktivnyye izmeneniya v neyronakh golovnogo mozga pri
razdrazhenii perifericheskikh nervov.)

PERIODICAL Doklady Akademii Nauk SSSR, 1957, Vol. 115, Nr 4,
pp. 841-844 (USSR)

ABSTRACT As it is known from the specialized literature the influence of various excitations causes a number of changes in the encephalic tissue. Many histological investigations indicate a connection between the encephalic neurons and the peripheral nerves. The mechanism, however, which effects this connection is not sufficiently investigated. There is for example no direct proof that the nerve impulses occurring at the periphery reach directly the cell bodies of the nerve cells of the cerebral cortex. Equally the changes of the traces of the neurons soon after the excitation are insufficiently investigated. The author thought it possible to explain *in vivo* some parts of the interaction of the encephalon neurons by means of colouring. In the following work the change of the sorption properties of the mentioned neurons on the occasion of excitation of

CARD 1/4

20-4-59/60

Reactive Changes Observed in the Neurons of the Encephalon in the Course of Excitation of Peripheral Nerves.

the nervus Ischiadicus with electric current is to be investigated. Frogs, mice, and rats were used for the experiments.

Experiments with frogs. Results of 121 experiments are statistically elaborated and shown graphically on figure 1a. As it can be seen, the sorption value of the pigment by the brain is on the average by 30 % higher than at the control. The sorption value decreases gradually after the ceasing of the excitation and reaches the norm after 1 hour. After 1,5 hours this value is 12% smaller than the norm; after that it reaches the norm again. The results demonstrate that on the occasion of the excitation of the peripheral nerve system considerable changes the binding ability of a pigment can be observed in the encephalon.

Experiments with rats. The results can be seen on figure 1b. The brain of the rat shows immediately after the ceasing of the excitation an increase of sorption by 23 % on the average. Consequently it decreases and after one hour it is equal to the control, then, however, it increases again by 18 %. These experiments confirm the direct dependency of the change of the sorption ability of the brain on the excitation of the peripheral nerves.

CARD 2/4

20-4-59/60

Reactive Changes Observed in the Neurons of the Encephalon in the Course of Excitation of Peripheral Nerves.

Experiments with mice. Excitation traces remain distinct much longer than in the case of the two other animals. The wave or phase character of the changes of the traces can be seen distinctly. Inspite of the above results the author cannot yet affirm that the nerve impulses coming from the excited section are the direct reason of the changed sorption properties of the neurons. In order to solve this problem experiments were carried out with the excitation of the N.ischiadicus of the left extremity and the sorption ability of the right brain hemisphere and vice versa. The results are shown on figure 2. In the case of unilateral excitation the sorption value of both hemispheres differs, i.e. the sorption of the right hemisphere is increased if the left hemisphere was excited and vice versa. The sorption properties were changed also in the same hemisphere, but less. Without denying the influence of the humeral factors it must not be omitted that the crossing of the nerves running to the hemispheres is not complete and that a part of the

CARD 3/4

20-4-59/60

Reactive Changes Observed in the Neurons of the Encephalon in the Course
of Excitation of Peripheral Nerves.

fibres enters directly into the same hemisphere. Besides, the excitation waves can propagate over the commissures between the hemispheres. From the above experiments it can be affirmed that the mentioned changes are caused reflectorically by the excitation waves in question.

(There are 2 figures and 12 Slavio references)

ASSOCIATION: Institute for Animal Physiology im. I.P. Pavlov AN USSR.
(Institut fisiologii zhivotnykh imeni I.P. Pavlova Akademii nauk SSSR)
PRESENTED: By K.M. Bykov, Academician, May 16, 1957
SUBMITTED: May 10, 1957.
AVAILABLE: Library of Congress.

CARD 4/4

ROMANOV, S.N.

Effect of conditioned reflex stimulus on changes of sorption properties
of the neural cells in the brain. Doklady Akad. nauk SSSR 90 no.1:117-
129 1 May 1953. (CLML 24:5)

1. Presented by Academician K. M. Bykov 19 February 1953.

USSR / Human and Animal Morphology, Normal and Pathologic.
Nervous System. Peripheral Nervous System.

S-2

Abs Jour : Ref Zhur - Biol., No 18, 1958, No 83674

Author : Meshkov, N.V.; Romanov, S.S.; Kravchuk, L. M.

Inst : Lvov Zooveterinary Institute

Title : Changes in the Urinary Bladder after Impairment of Its
Innervation.'

Orig Pub : Sb. nauchn. tr. L'vovsk. zoovet. in-t, 1956, 8, 143-149.

Abstract : The spinal cord in rabbits was cut in area L3-L4, completely lesioned at level Th5-Th6, or impaired in the lumbar area by puncture with a surgical needle. Most animals showed ulcers in the urinary bladder with blood clots in the cavity or fibrin deposits on the surface of the peritoneum. There were sharply pronounced vascular lesions (enlargement of capillaries, hemorrhages, hemostasis and thromboses); as a consequence, there appeared necrosis of the mucosa, beginning in the epithelium and spreading to its own layer up to the muscular sheath. Vascular lesions play an important part in the mechanism of the development of ulcers in the bladder. -- N. T. Tsarapkin.

Card 1/1

"APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R001445220017-5

DENISOVA, N.V.; KALETSKIY, A.A.; ROMANOV, S.V.; CHUNIKHIN, S.P.

Black swans in the bodies of water of Moscow. Ornitologiia
no.5:286-289 '62. (MIRA 16:2)
(Moscow--Swans)

APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R001445220017-5"

ROMANOV, S. YE.

Study of Temperature Range of the Plate Focus of an Electron X-Ray Tube
of a High-Vacuum Spectrograph

The temperature of the focus of a Cu and Al plate terminal at a dc current of 18 kv is tested by means of thermocouples and low mp alloys at various plate currents and various speeds of water flow through the plate. (RZhFiz, No. 8, 1955) Uch. Zap. Belorus. un-ta, No. 16, 1954, 158-165.

SO: Sum. No. 744, 8 Dec 55 - Supplementary Survey of Soviet Scientific Abstracts (17)

SHIROKOV, N.N.; KIM, L.V.; ROMANOV, S.V.; VELITNITSKIY, A.I.;
MISHIN, A.Ye.

Improving operations of concrete mixing units at the reinforced concrete products plant. Suggested by N.N. Shirokov and others. Rats.i izobr.predl.v stroi. no.11:17-19 '59.
(MIRA 13:3)

(Mixing machinery) (Reinforced concrete)

ROMANOV, S.V., inzh.

Rock pressure and method of calculating rod bolting. Nauch. dokl.
vys. shkoly; gor. delo. no.1:61-65 '59. (MIRA 12:5)

1. Predstavlena kafedroy razrabotki redkikh rud Moskovskogo
instituta tsvetnykh metallov i zolota im. M.I. Kalinina.
(Subsidence (Earth movements))
(Mine roof bolting)

3402 ROMANOV U. S. AND UDOVENKO I. P.

Mnogomolotkovo bureniye tatsionnye molotkami po metodu prokhodchika
P. I. Chaykovskogo. N Metallurgizdat, 1954. 40s s chert 20 sm. (Perekovy
metody truda) 2,000 ekz 85 k na obl avt ne ukazany (54-57169) p. 622.34
622.235.1 st + 622.235.1 st.

ROMANOV, V.

In the world of quanta and fields. Tekh.mol. 28 no.4:10-11
'60. (MIRA 13:11)
(Quantum theory) (Fok, Vladimir Aleksandrovich, 1898-)

ROMANOV, V.; SLOVTSOV, A.

Mechanize the quarrying of marble. Na stroi. Ros. 3 no.5:33
My '62. (MIRA 15:9)

1. Nachal'nik proizvodstvennogo otdela upravleniya Promstroymaterialov Chelyabinskogo soveta narodnogo khozyaystva (for Romanov).
2. Glavnnyy inzh. Koyelginskogo rudoupravleniya (for Slovtsov).
(Marble industry)

"APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R001445220017-5

ROMANOV, V., polkovnik

Perform your duties at full capacity. Komn. Vooruzh. Sil. 46
no.20:55-57 0 '65. (MIRE 18:12)

APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R001445220017-5"

ROMANOV, V.

Man's happiness is in the work for his community. NTO 5 no.4:24-26
Ap '63. (MIRA 16:3)

1. Glavnnyy inzh. elektrotekhnicheskogo ob'yedineniya "Elektrosila".
(Leningrad--Electric equipment industry)

ROMANOV, V.

Popular vocation of the future. Prof.-tekhn. obr. 19 no.6:31
Je '62. (MIRA 15:7)

1. Zamestitel' glavnogo inzhenera stankostroitel'nogo zavoda
"Krasnyy proletariy" imeni A.I. Yefremova, g. Moskva.
(Automation)
(Technical education)

ROMANOV, V.

The nine friends. Sov.profsoiuzy 7 no.4:21-22 Fe '59.
(MIBA 12:5)

1. Profgruporg zavoda "Elektrosila."
(Electric engineers)

ROMANOV, V. (Spassk-Dal'niy).

Redesign of the EIS-2 transformer. Radio no. 8:60 Ag '53. (MLR 6:8)
(Radio--Transformers)

ROMANOV, V.

Inspector of the State Mining Technical Inspection Iu.M. Mikhailov
prevented a group accident. Bezop. truda v prom. 3 no.11:21 N '59.
(MIRA 13:3)

(Donets Basin--Mine accidents)

KISELEV, N. (Kiyev); OL'SHANOV, Ye.; (Khabarovsk); RYABOV, M. (Lipetsk);
KAL'MANOVICH, M., aktivist; ROMANOV, V., inzh. (g.Izhevsk);
VOGTRYAKOV, I.

From letters. Izobr.i rats. no.12:36-37 D '59.

(MIRA 13:8)

1. Starshiy inzhener Ukrainskogo respublikanskogo soveta Vsesoyuznogo obshchestva izobretateley i ratsionalizatorov (for Kiselev).
2. Sekretar' Khabarovskogo krayevogo soveta Vsesoyuznogo obshchestva izobretateley i ratsionalizatorov (for Ol'shanov). 3. Predsedatel' Lipetskogo oblastnogo soveta Vsesoyuznogo obshchestva izobretateley i ratsionalizatorov (for Ryabov). 4. Oblastnoy sovet Vsesoyuznogo obshchestva izobretateley i ratsionalizatorov g. Nikolayev (for Kal'manovich). 5. Planovo-tehniko-ekonomicheskiy otdel Izhevskogo otdeleniya Kazanskoy zheleznoy dorogi (for Romanov).
6. Starshiy inzhener Byuro sodeystviya ratsionalizatsii i izobretatel'stvu Sredneural'skogo medeplavil'nogo zavoda, g.Revda.

(Technological innovations)

ROMANOV, V.

Teoriia Oshibok i Sposob Naimezhikhi Kvadratov (Theory of Errors and Methods
of Minimal Squares)

370 p. 2.00

SO: Four Continent Book List, April 1954

ROMANOV, V., podpolkovnik,

Let's evaluate the results of military training as the high-principled Communists should. Korm. Vooruzh. Sil 1 no.1:26-
29 O '60.

(MIRA 14:7)

(Tanks(Military science))

1. РТММВ, Ч.
 2. УГМК (620)
 3. Cotton Growing
 7. Methods for studying the make-up of the yield of cotton, Khlopkovcdstvc, No. 5, 1951.

9. Monthly List of Russian Accessions, Library of Congress, June 1953, Unclassified

9. Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

ROMANOV, V. (Ivanovo)

Ivanovo Province Clinical Hospital is 100 years old. Sov. zdrav.
21 no. 4:95 '62. (MIRA 15:5)
(IVANOVO PROVINCE--HOSPITALS)

ROMANOV, Vl., inzh.

Cost of the energy. Tekh. mol. 25 no.11:23-24 N '57. (MIRPA 10:11)
(Power (Mechanics))

Relevant, timely, and reliable information.

Selection of an optimal source of local interpretation.

Translating documents in progress. 3 Feb. 1968.

1. Sovchikovskiy polit-kommunisticheskii institut.

L 18376-55 EWT(1)/EWA(b) Pa-4 AMD JK
SESSION NR: AP5003102 S/0016/64/000/011/0145/0145

AUTHOR: Prikhod'ko, Z. N.; Romanov, V. A.

TITLE: Stimulation of typhoid agglutinins by plague vaccine from strain EV

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 11, 1964, 145

TOPIC TAGS: immunology, serum, virus disease, bacterial disease

Abstract: One group of rabbits was vaccinated simultaneously with typhoid and plague (strain EV) vaccines three times at 7-day intervals; a second group received first plague vaccine and 7 days later, typhoid vaccine. On the 44th day the rabbits were re-vaccinated subcutaneously with killed typhoid vaccine. The titers of typhoid agglutinins in the blood serum of all animals were determined at various intervals (from the 7th to the 74th day). The experiments showed that immunization of rabbits with typhoid vaccine resulted in a considerable production of agglutinins; the maximum of antibodies was observed on the 14th day. Simultaneous vaccination with typhoid and plague vaccines resulted in stimulated accumulation of typhoid agglutinins, which reached a maximum on the 7th day. Administration of typhoid vaccine subsequent to vaccination with plague vaccine resulted in suppression of anti-

Card 1/2

L 18376-65
ACCESSION NR: AP5003102

body formation; antibody accumulation took place slowly and the titer reached its maximum only on the 21st day.

ASSOCIATION: Voronezhskiy meditsinskiy institut (Voronezh Medical Institute)

SUBMITTED: 00

ENCL: 00

SUB CODE: LS

NO REF SOV: 000

OTHER: 000

JPRS

Card 2/2

ROMANOV, V. A.

ROMANOV, V. A. "On the problem of the influence of error in centering theodolite in the top of a unifying triangle on the precision of solution of the problem of adjoining according to Weissbach's method", (In locating mine shafts), Zapiski Leningr. gornogo in-ta, Vol. XXII, Part 2, 1948, p. 207-17.

SO: U-4393, 19 August 53, (Letopis 'Zhurnal 'nykh Statey', No. 22, 1949).

ROMANOV, V. A.

37156. K voprosu vychisleniya vesou neisvestnykh prireshenii normal'nykh uravneniy po sposobu gaussa. Zapiski Leningr. Gornogo in-ta, t. XXIII, 1949, s. 159-66---Bibliogr: 10 Nazv

So: Letopis' Zhurnal'nykh Statey, Vol 7, 1949

СИМЕНОВ, В. А.

1949. Goryainov, N. N. "Opravlenie neizvescheniy v poli "A" s plit' kandilakh dlya velikih psyt i d"era i spuska." Zapiski lemnigr. Gornogo in-ta, t. xxiii, 1949, s. 186-212.
Romanov, V. A. k voprosu nizrisleniya vesoy neizveschenykh pri reshenii normal'nykh uravneniy po sposoku gaussa. - Sm. 37156

SO: Letopis' Zhurnal'nykh Statey, Vol. 7, 1949

ROMANOV, V.A.

PHASE I

TREASURE ISLAND BIBLIOGRAPHICAL REPORT

Call No.: QA 275.R65

AID 122 - I

BOOK

Author: ROMANOV, V. A., Assist. Prof., Bachelor of Technical Sciences

Full Title: THEORY OF ERRORS AND METHOD OF LEAST SQUARES

Transliterated Title: Teoriya oshibok i sposob naimen'shikh kvadratov

Publishing Data

Originating Agency: None

Publishing House: Ugletokhizdat (Coal Technology Publishing House)

Date: 1952 No. pp.: 367 No. of copies: 5,000

Editorial Staff

Editor: Scientific editor Prof. A. I. Mzmishvili

Tech. Ed.: None

Editor-in-Chief: None

Appraiser: None

Others: Prof. S. G. Avevshin, Doctor of Tech. Sci., Prof. D. M. Oglomin,
Doctor of Tech. Sci., Assist. Prof. T. A. Bay, Bachelor of Tech. Sci.,
cooperated in editing. The help of Prof. A. I. Mzmishvili, Doctor
of Tech. Sci., is acknowledged.

Text Data

Coverage: A comprehensive, well-written and well-edited textbook for mine and
geodetic surveyors and in general for work in measurement and obser-
vations. The book is divided into three parts: 1) the theory of
errors in measurements, 2) the method of least squares, and 3) the
principles of the theory of probability, as applicable to the first

ROMANOV, V.A.

Teoriya oshibok i sposob naimen'shikh kvadratov

AID 122 - I

two parts. In the appendices are given tables of squares of numerals, squares of reciprocals, coefficients x' and y' , $a^2 + b^2 = \frac{4251}{34} \text{ km.}^2$, probability of an error between σ and n -multiple mean error and n -multiple probable error.

Comments: A good reference book, based on generally known sources.

Purpose: Approved by the Ministry of Higher Education, U.S.S.R., as a text for students of mining institutes and in departments of mine surveying.

Facilities: Use was made of the courses of Profs. A. T. Chebotarev, P. I. Shilov, N. I. Idelson, N. G. Kell', I. M. Bakhurin, V. I. Bauman and others.

No. of Russian and Slavic References: 19

Available: Library of Congress.

2/2

ROMANOV, V.A.

~~ROMANOV, V.A.~~ kandidat tekhnicheskikh nauk.

Weights and their significance in adjustment computations by the method
of least squares. Trudy VNIMI no.26:188-195 '52. (MLRA 8:3)
(Mine surveying)

ROMANOV, V.A., dotsent, kandidat tekhnicheskikh nauk.

Effective choice of "units" for detecting errors in linear
measurements by compensating computations. Nauch. trudy MOI
no.12:121-127 '54. (MLRA 10:2)

(Mine surveying)

ROMANOV, V.A., dotsent, kandidat tekhnicheskikh nauk.

New method of reducing observations to a nondeflected plumb line position (in mine orientation). Nauch. trudy MGI no.12: 128-139 '54. (MLRA 10:2)

(Mine surveying)

ROMANOV, V.A., dozent, kandidat tekhnicheskikh nauk; LYUBMAN, I.B.,
Inzhener.

Adjustment of mine surveying traverses in underground mining.
Nauch. trudy MGU no.12:140-147 '54. (MLRA 10:2)

(Mine surveying)

ROMANOV, V.A., dotsent, kandidat tekhnicheskikh nauk; LYUBMAN, I.B.,
gornyy inzhener-marksheyder.

New development of the symmetrical method of mine orientation.
Ugol' 29 no.10:32-35 0 '54. (MLRA 7:11)
(Mine surveying)

RGM OV, V. I.

Romanov, V. A.

"Progress in the Theory and Practice of Adjusting the Results of Mine-Survey Measurements." [in higher Education USSR. Moscow Mining Inst imeni I. V. Stalin. Moscow, 1955. (Dissertation for the Degree of Candidate in Biological Science.)

SO: Knizhnaya Letopis'
No. 27, 2 July, 1955

21(7)

AUTHORS: Kel'man, V. M., Metskhvarishvili, R.Ya., SOV/56-37-3-8/62
Preobrazhenskiy, B. K., Romanov, V. A., Tuchkevich, V. V.

TITLE:

The Multipolarities of γ -Transitions in Tm¹⁶⁹

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959,
Vol 37, Nr 3(9), pp 639-642 (USSR)

ABSTRACT:

The γ -spectrum and the spectrum of the conversion electrons of excited Tm¹⁶⁹-nuclei has already been investigated by several authors. In the present paper the level scheme of the considerably deformed Tm¹⁶⁹-nucleus and its particular characteristics are first discussed (Fig 1, Ref 4). In the following, the authors give several results obtained by measurements of the ratios of γ -conversion coefficients to the L-subshells of Tm¹⁶⁹ ($E_{\gamma} = 63, 94, 110, 130.5, 177$, and 198 kev). Further, the multipolarities of the transitions were determined and for mixed radiations the percentage of the components was determined. The intensities of the conversion lines were measured by means of β -spectrometers. As a source a thin Yb¹⁶⁹-layer on an aluminum foil was used.

Card 1/3

The Multipolarities of γ -Transitions in Tm¹⁶⁹

SOV/56-37-3-8/62

The production of this source is described in detail: A tantalum target was irradiated with 680 mev protons on the synchrocyclotron of the Ob'yedinenyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research); The rare-earth elements produced were separated by ion exchange (using the cationite KU-2) and subjected to a process of preparation which is described. Finally, a Lu-fraction (Lu¹⁶⁹) was obtained on the aluminum foil, which goes over into Yb¹⁶⁹ with a half life of ~2d. Figure 2 shows the conversion lines of 177 kev γ -quanta onto the L-subshells of Tm¹⁶⁹, and figure 3 shows the same for 198 kev γ -quanta. In both cases also the L_{II}- and L_{III}-maxima are distinctly marked beside the steep L_I-peak. The results obtained by these investigations are shown in a table. Thus, the following was e.g. obtained for the 177 kev transition:
 $L_I : L_{II} : L_{III} = 1 : (0.24 \pm 0.01) : (0.137 \pm 0.006)$; $L_{II}/L_I : 82\% M1 + 18\% E2$, L_{III}/L_I : the same mixture.

Card 2/3

The Multipolarities of γ -Transitions in Tm^{169}

SOV/56-37-3-8/62

For the 198 kev transition the following is given:

$L_I:L_{II}:L_{III} = 1:(0.135 \pm 0.002):(0.063 \pm 0.001)$; $L_{II}/L_I = 93\% M1 + 7\% E2$, $L_{III}/L_I = 90\% M1 + 10\% E2$. There are 3 figures, 1 table, and 15 references, 8 of which are Soviet.

ASSOCIATION:

Leningradskiy fiziko-tehnicheskiy institut Akademii nauk SSSR
(Leningrad Physico-technical Institute of the Academy of Sciences, USSR)

SUBMITTED:

April 9, 1959

Card 3/3

ROMANOV, V.A.; SERBINOV, A.N.

Self-focusing ion source for electrostatic accelerators.
Prib. i tekhn. eksp. 10 no. 5:34-37 S-0 '65.

(MIRA 19:1)

1. Fiziko-energeticheskiy institut Gosudarstvennogo komiteta
po ispol'zovaniyu atomnoy energii SSSR, Obninsk.

L 28039-66 EWT(1)/EWT(m) IJP(c) AT

ACC NR: AP5027004

SOURCE CODE: UR/0120/65/000/005/0034/0037

AUTHOR: Romanov, V. A.; Serbinov, A. N.

ORIG: Institute of Physics and Power of GKAE, Obninsk (Fiziko-energeticheskiy institut)

TITLE: Ion source with automatic focusing for electrostatic accelerators

SOURCE: Pribory i tekhnika eksperimenta, no. 5, 1965, 34-37

TOPIC TAGS: electrostatic accelerator, ion accelerator, ion beam focusing

ABSTRACT: The methods of calculation of ion-beam focusing in accelerator tubes are discussed and the design of the ion source with an automatic focusing at $N = \text{const}$ is proposed. (N denotes the ratio of the ion energy at the exit to the ion energy at the entrance). The method of calculation described by Mortimer M. Elkind (The Review of Scientific Instruments, 1953, v. 24, p. 129) was used by the authors for determining the ion-optical properties of a three-element tube. The results of calculation for EG-1 tube were presented including the N ratio, the distance from the ion source cathode to the first tube electrode and the potential of the first electrode. A variable resistor was used for Card 1/2

UDC: 621.384.66:621.384.659

44
41
B

2

L 28030-66

ACC NR: AP5027004

adjusting the needed ion-beam focusing. The selection of the resistance was discussed and graphically presented. A cross-section of the ion source designed for EG-1 tube was shown in a figure. The tests showed no changes in focusing at 30 microamp and for the voltage variations from 0.5 to 5 Mv. In conclusion, it was stressed that M. M. Elkind's method of calculation (at $N = \text{const}$) makes possible a selection of an ion source without a complex system of focusing electrodes and with an adequate initial accelerating voltage. The authors expressed their gratitude to A. V. Mazhulin, I. S. Belomyttsev and V. S. Ishchukov for their assistance and participation. Orig. art. has: 3 figures, 1 table and 4 formulas.

SUB CODE: 18 / SUBM DATE: 1Aug64 / ORIG REF: 003 / OTH REF: 003

Card 2/2 CC

L-28039-66 EWT(1)/EWT(m) IJP(c) AT

ACC NR: AP5027004

SOURCE CODE: UR/0120/65/000/005/0034/0037

AUTHOR: Romanov, V. A.; Serbinov, A. N.

44

41

B

ORIG: Institute of Physics and Power of GKAE, Obninsk (Fiziko-energeticheskiy institut)

TITLE: Ion source with automatic focusing for electrostatic accelerators

19

SOURCE: Pribory i tekhnika eksperimenta, no. 5, 1965, 34-37

TOPIC TAGS: electrostatic accelerator, ion accelerator, ion beam focusing

ABSTRACT: The methods of calculation of ion-beam focusing in accelerator tubes are discussed and the design of the ion source with an automatic focusing at $N = \text{const}$ is proposed. (N denotes the ratio of the ion energy at the exit to the ion energy at the entrance). The method of calculation described by Mortimer M. Elkind (The Review of Scientific Instruments, 1953, v. 24, p. 129) was used by the authors for determining the ion-optical properties of a three-element tube. The results of calculation for EG-1 tube were presented including the N ratio, the distance from the ion source cathode to the first tube electrode and the potential of the first electrode. A variable resistor was used for

Card 1/2

UDC: 621.384.66:621.384.659

2

L 28039-66

ACC NR: AP5027004

adjusting the needed ion-beam focusing. The selection of the resistance was discussed and graphically presented. A cross-section of the ion source designed for EG-1 tube was shown in a figure. The tests showed no changes in focusing at 30 microamp and for the voltage variations from 0.5 to 5 Mv. In conclusion, it was stressed that M. M. Elkind's method of calculation (at $N = \text{const}$) makes possible a selection of an ion source without a complex system of focusing electrodes and with an adequate initial accelerating voltage. The authors expressed their gratitude to A. V. Mazhulin, I. S. Belomyttsev and V. S. Ishchukov for their assistance and participation. Orig. art. has: 3 figures, 1 table and 4 formulas.

SUB CODE: 18 / SUBM DATE: 1Aug64 / ORIG REF: 003 / OTH REF: 003

Card 2/2 CC

ROMANOV, V.A.

Innovations at the "Krasnii Proletarii" Plant.
Mashinostroitel' no.9:23-25 S '65.

(MIRA 18:12)

ROMANOV, V.A.

Machining multistep splined shafts on automatic lines. Biul.tekh.-ekon.
inform. Gos.nauch.-issl. inst.nauch. i tekhn.inform. 18 no.6.15-17 Je
'65. (MIRA 18:7)

RGMANOV, V.A.; SERBINOV, A.N.

Some characteristics of an accelerating tube with sloping fields. Atom. energ. 19 no.2:176 Ag '65. (MIRA 18:9)

L 2205-66 EWT(1)/EWT(m)/T/EWP(t)/EWP(b)/EWA(h) IJP(c) JD/AT
ACCESSION NR: AP5017335

72 UR/0181/65/007/007/2239/2242

69B

AUTHOR: Boyko, I. I.; Zhad'ko, I. P.; Rashba, E. I.; Romanov, V. A.

TITLE: Occurrence of non-equilibrium carriers when current passes through elastically deformed germanium

SOURCE: Fizika tverdogo tela, v. 7, no. 7, 1965, 2239-2242

TOPIC TAGS: germanium, semiconductor carrier, elastic deformation

ABSTRACT: This is a continuation of earlier work (FTT v. 6, 3247, 1964), where it was shown that under certain conditions current flowing through homogeneous organic crystals with anisotropic electric conductivity can give rise to non-equilibrium carriers and to a nonlinear volt-ampere characteristic. The present investigation was devoted to an experimental observation of this effect. The relation between the field intensity and the current density is derived theoretically for this case. The experiments, performed on high-resistivity germanium (40 Ω-cm at 300K), in which the anisotropy was produced by homogeneous compression, resulted in characteristics which were very similar to those derived theoretically. "The authors thank V. Ye. Lashkarev, G. Ye. Fikus, and M. K. Sheynkman for a discussion and V. V. Pakhomov for participating in the calculations." Orig. art. has: 2 figures and 3 formulas.

Card 1/2

L 2205-66

ACCESSION NR: AP5017335

ASSOCIATION: Institut poluprovodnikov AN UkrSSR, Kiev (Institute of Semiconductors, AN UkrSSR) 3

SUBMITTED: 22Feb65

ENCL: 00

SUB CODE: 88

NR REF Sov: 002

OTHER: 000

Card 2/2

DP

L 2903-66 EWT(d)/EWP(c)/EWP(v)/T/EWP(k)/EWP(h)/EWP(l)
AM5010319

BOOK EXPLOITATION

UR/

65.011.56 R69

51

50

B+1

Romanov, Vladimir Andreyevich

Automation of standard production processes (Avtomatizatsiya tipovykh proizvodstvennykh protsessov) Moscow, Izd-vo "Energiya", 1964. 0287 p. illus., biblio. 10,000 copies printed.

TOPIC TAGS: automatic control, production engineering, industrial automation, self adaptive control, automatic control system, electronic circuit

PURPOSE AND COVERAGE: The book examines the basic problems of automatic control and regulation in standard production processes. Presented are standard examples of automatic and semiautomatic control, movement regulations and conditions for physical and chemical conversion regulation. The peculiarities of automatic coordination in complicated units and complexes are analyzed. The book is intended for engineering and technical personnel engaged in the field of production automation. It can be used by students in higher technical learning and technical schools studying related disciplines.

Card 1/3

L 2903-60

AM5010319

TABLE OF CONTENTS (abridged):

Introduction - - 9
Part 1. Control
Ch. I. Structure and classification of production process control systems and elements - - 19
Ch. II. Annunciator circuits and devices - - 23
Ch. III. Centralized control of technological processes - - 35
Ch. IV. Semiautomatic control principles and devices of piece <u>mass-production</u> -- 44
Ch. V. Automatic separation of piece production according to the production sort and grade - - 55
Ch. VI. Basic characteristics and typical examples of automatic control in the continuous production process of compact products - - 77
Part 2. Automatic control of engineering and transport movements
Ch. VII. Programming and control of engineering and transport movements - - 97
Ch. VIII. Typical structures of movements automatic control systems - - 123
Ch. IX. The optimization of engineering and transport movement processes - - 129
Part 3. Automatic control of engineering process regimes
Ch. X. Properties of automatized production units - - 141
Ch. XI. Basic types of industrial automatic regulation systems and adjustment methods of typical controllers - - 154

Card 2/3

L 2903-66

AM5010319

- Ch. XIII. Typical technological regime controllers -- 172
Part 4. Automatic coordination in engineering processes and complexes
Ch. XIII. Basic problems and coordination principles in automatic control of production units and production lines -- 190
Ch. XIV. Coordination of cyclic processes -- 199
Ch. XV. Automatic coordination in continuous process units -- 209
Ch. XVI. Automatic coordination based on synchronized coincidence of movements -- 217
Ch. XVII. Regime coordination in complicated engineering units -- 231
Ch. XVIII. Self-adjustable automatic control systems of production processes -- 251
Bibliography -- 286

SUB CODE: IE, DP

NR REF Sov: 048

SUBMITTED: 28Sep64

OTHER: 009

KC
Card 3/3

NEMTSEV, Z.F., kand. tekhn. nauk; ROMANOV, V.A., inzh.

Method for determining the optimum vacuum of condensing turbines in a modern power system. Teploenergetika 11 no.8:13-16 Ag '64. (MIRA 18:7)

1. Novocherkasskiy politekhnicheskiy institut.

RUMANOV, V.A. (Leningrad)

Multidimensional control in complex industrial plants with consideration
of the invariance of the quality of the final product. Avtom. i telem.
26 no.4:663-668 Ap '65. (MIRA 18:6)

ROMANOV, V.A.; SERBINOV, A.N.; DUDKIN, N.I.

Working experience with an E G-2.5 electrostatic accelerator. Prib.
i tekhn. eksp. 10 no.1:43-49 Ja-F '65. (MIRA 18:7)

RONINOV, S.N.; ROMASHKA, R.A.

Change in the cellular resistance of the organism under the influence of thyroid hormones. Dokl. AN SSSR 160 no.1:209-212 Ja '65. (MIRA 18:2)

I. Institut fiziologii im. I.P. Pavlova AN SSSR. Submitted May 9, 1964.

ROMANOV, V.A.

Device for checking lead-screw threads. Mashinostroitel' no.
2:24 F '64. (MIRA 17:3)

ROMANOV, V.A.

Pneumatic press for hardening friction disks. Mashinostroitel'
no.8:17 Ag '63. (MIRA 16:10)

ROMANOV, V.A.

Turning table for the boring and reboring of large gabarit
articles. Ratsionalizacija 3 no.3825-26 '63.

ROMANOV, V.A., inzh.; NEMTSOV, Z.F., kand.tekhn.nauk

Method for calculating the number of starts and losses due to the
variable operation of thermal electric power plants. Elek. sta. 34
no.6:13-17 Je '63. (MIRA 16:9)
(Electric power plants)

ROMANOV, V.A.

Attachment for automatic lifting of the cutting-tool holder.
Mashinostroitel' no.9:30 S '63. (MIRA 16:10)

(Planing machines--Attachments)

ROMANOV, Vladimir Andreyevich; AREF'YEV, B.A., dots.

[Automation of standard industrial processes] Avtomati-
zatsiia tipovykh proizvodstvennykh protsessov. Moskva,
Energiia, 1964. 287 p. (MIRA 17:12)

NEMTSEV, Z.F., kand. tekhn. nauk; ROMANOV, V.A., inzh.

Calculation of an effective vacuum for large central heating turbines in an electric power system. Elek. sta. 35 no.7:52-56 Jl '64. (MIRA 17:11)

TUCHKEVICH, V.V.; ROMANOV, V.A.; TOTUBALINA, M.G.

Study of neutron-deficient Lu isotopes using a prism
spectrometer equipped with quadrupole lenses. Izv. AN SSSR.
Ser. fiz. 27 no. 2:246-248 F '63. (MIRA 36:2)

1. Fiziko-tehnicheskiy institut im. A.F.Ioffe AN SSSR.
(Beta-ray spectrometer) (Lutetium-isotopes--Decay)

ROMANOV, V.A.

Establishing norms and accounting for several indices of the power supply of a thermal electric power plant. Trudy NPI 139:27-32 '62. (MIRA 16:6)

(Electric power plants)

NEMTSEV, Z.F.; ROMANOV, V.A.

Effect of starting expenditures on the economic operation of
pick-load electric power stations. Trudy NPI 139:43-47 '62.
(MIRA 16:6)

(Electric power stations)

ROMANOV, V.A.; SERBINOV, A.N.

High-frequency ion source for an electrostatic generator. Prib.
i tekhn. eksp. 8 no.1:27-30 Ja-F '63. (MIRA 16:5)
(Ion sources) (Electric generators)

ROMANOV, V.A.

Innovations of "Krasnyi Proletarii" Plant workers.
Mashinostroitel' no.11:18-20 N '62. (MIRA 15:12)

1. Glavnnyy inzhener stankostroitel'nogo "Krasnyy
proletariy".
(Moscow--Machine-tool industry)

BARANCHUK, Ye.I.; ROMANOV, V.A., kand. tekhn. nauk, retsenzent;
AREF'YEV, B.A., kand. fiz.-mat. nauk, red.; MITARCHUK, G.A.,
red. izd-va; SPERANSKAYA, O.V., tekhn. red.

[Design and adjustment of electronic controllers] Proektirovaniye i nastroika elektronnykh regulatorov. Moskva, Mashgiz,
1963. 370 p. (MIRA 16:3)

(Electronic control) (Electric controllers)
(Automatic control)

S/120/63/000/001/004/072
E194/E455

AUTHORS: Romanov, V.A., Serbinov, A.N.

TITLE: A high-frequency ionic source for an electrostatic generator

PERIODICAL: Pribory i tekhnika eksperimenta, no.1, 1963, 27-30

TEXT: An improved ion source, easily made and with simple current adjustment, is described (Fig.1). It is for use on continuously-operating accelerators with electrostatic generators. The extraction voltage is applied between the cathode holder 4 and the frame of the source 5, so that no terminal is needed within the discharge chamber. The beam is focused with a two-pole lens. Special fixtures are used to ensure accurate centering of the parts. The diaphragm 1 is pressed from pyrex glass which is accurately located relative to the cathode 2. The diaphragm insulates the discharge plasma from the cathode and also screens the metal surface of the anode, which reduces the recombination of atomic hydrogen upon it. Constructional features and assembly are explained. The length of the cathode duct is 3 mm and the diameter 0.6 mm; the diameter of the extraction aperture is 1.2 mm
Card 1/4

S/120/63/000/001/004/072

E194/E455

A high-frequency ionic ...

and the plane of the cathode is 1.00 to 0.85 mm from the upper surface of the diaphragm. After checking the characteristics of the source on a rig, it was operated with accelerators types ЭГ-1 (EG-1) and ЭГ-2.5 (EG-2.5). The gas flow was assessed from the flow capacity of the extraction system. When exciting an annular discharge in a transverse magnetic field at frequencies of 40 to 80 Mc/s, the operating pressure in the discharge chamber was 1.5 to 2×10^{-2} mm Hg, which corresponds to a hydrogen consumption of 1.2 to 1.6 cm³/hour under normal conditions. In the rig, discharge in the source was excited by generators based on tube ГУ-29 (GU-29) and tubes ГУ-50 (GU-50) respectively. In the first case the power absorbed by the discharge was about 40 W and in the second about 100 W. The anode current of the source was measured on the rig by means of a Faraday cylinder which is described; ionic current and degree of focusing are plotted as functions of extraction voltage, and with a power absorption of 40 W the ionic current was 90 μ A and the degree of focusing was very small. With the 100 W discharge, the ionic current was 240 μ A and the focusing effect was more marked. Sources of this Card 2/4

S/120/63/000/001/004/072
E194/E455

A high-frequency ionic ...

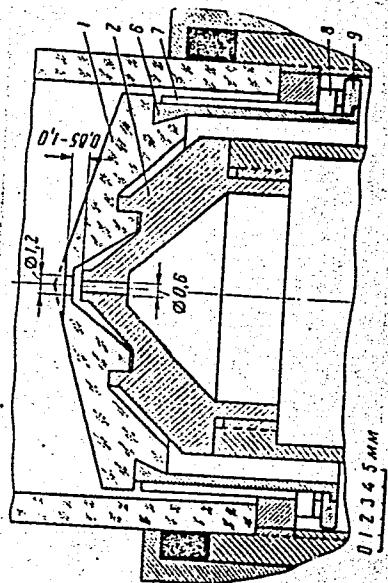
design have worked on accelerators type EG-1 and EG-2.5, under normal operating conditions, for more than 500 hours on the first and for more than 250 hours on the second, and continue to operate fully satisfactorily. These operating times exclude the time of adjustment of the accelerators during which the sources are more heavily loaded. Under comparable conditions, sources of the old construction operated on average for 300 hours. The comparatively low energy of the ion beam after the extraction system and also the small diameter of the duct in the cathode of the new design of source provide greatly improved focusing in the accelerator. In the new source the extraction voltage ranges from 0.5 to 1 KV, whilst in the old one it was 1.2 to 2.5 KV. The low hydrogen consumption of the source increases the ageing time of the discharge chamber. There are 3 figures.

SUBMITTED: April 10, 1962

Card 3/4

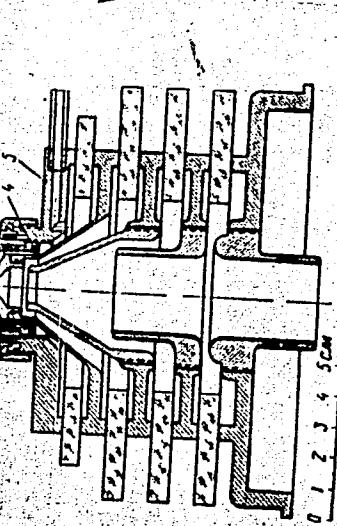
A high-frequency ionic ...

S/120/63/000/001/004/027
E194/E455



Card 4/4

Fig.1.



ROMANOV, V. A.

Universal hydraulic drive for drilling, boring and milling
machines. Avt. prom. 28 no.6:41-43 Je '62.

(MIRA 16:4)

1. Ural'skiy avtozavod.

(Machine tools—Hydraulic drive)

TOKAREV, I.A.; ROMANOV, V.A.; YANOVSKIY, I.I.; ARTSIMOVICH, V.N.;
MOROZOV, V.D.

Bit for drilling with a perforator. Gor.zhur. no.8:72
Ag '62. (MIRA 15:8)
(Rock drills)

OLLI, A.I.; ROMANOV, V.A.

Correlation of Pre-Paleozoic sediments of the western slope of
the Southern Urals and the Ural-Tau. Vop.geol.yest.ckr.Rus.platf.
IUzh.Urala no.7;83-92 '60. (MIRA 14:10)
(Ural Mountains—Geology, Stratigraphic)

OLLI, A.I.; ROMANOV, V.A.

Pre-Ordovician history of the tectonic development of the
Southern Urals. Vop.geol.vost.okr.Rus.platf.i IUzh.Urala
no.7:3-33 '60. (MIRA 14:10)
(Ural Mountain region--Geology)

ROSHAN, N.R.; ROMANOV, V.A.

Precision investment molding. Standartizatsiia 26 no.2:30-32
F '62. (MIRA 15:2)
(Precision casting)

ROMANOV, V.A.

High-intensity light modulator with a Kerr cell. Prib. i
tekhn. eksp. 6 no.4:165 Jl-Ag '61. (MIRA 14:9)

1. Institut fiziki AN USSR.
(Optical instruments)

ROMANOV, V.A.

Investigating the effect of the external electric field on the kinetics of photoelectric processes in semiconductors. Prib. i tekh. eksp. 6 no.2:157-158 Mr-Ap '61. (MIRA 14:9)

1. Institut fiziki AN USSR.
(Semiconductors) (Photoelectricity)

S/194/62/000/001/024/066
D201/D305

AUTHOR: Romanov, V. A.

TITLE: Automatic control of continuous operations in the treatment of unbroken products

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 1, 1962, abstract 1-2-98 e (Nauchno-tekhn. inform. byul. Leningr. politekhn. in-t, 1960, no. 12, 96-102)

TEXT: The influence of various factors affecting a continuous operation treatment of a moving material, is considered. As an example it is shown that for the chemical surface treatment of a tape-like material the effect of the treatment may be varied by varying the movement speed, concentration of the treating agent and the length of the tape loop. A corresponding control system for the solution of the problem is suggested, with details of the effects of various factors affecting the control process. A formula and the affecting factors design graph are given. 6 figures. / "Abstracter's note: Complete translation. 7

Card 1/1

TUCHKEVICH, V.V.; ROMANOV, V.A.; IODKO, M.G.

Relative intensity of conversion electrons in Lu¹⁷⁰ and Lu¹⁷².
Izv. AN SSSR Ser. fiz. 24 no.12:1457-1464 D '60. (MIRA 13:12)
(Lutetium—Isotopes)

ROMANOV, V.A.

Effect of imperfections in gears on the performance of a differential.
Stan. i instr. 31 no.5:23-24 My '60. (MIRA 14:5)
(Gearing)

OLLI, A.I.; ROMANOV, V.A.

Case of stratigraphic unconformity in old Ural-Tau series. Vop.
geomorf. i geol. Bashk. no. 2:132-135 '59. (MIRA 14:4)
(Ural-Tau—Geology, Stratigraphic)

ROMANOV, V.A.

Limited applicability of the concept of universal surface recombination rate in the investigation of the kinetics of photoelectric processes. Fiz. tver. tela 3 no.1:32-35 Ja '61.
(MIRA 14:3)

1. Institut fiziki AN USSR, Kiyev.
(Photoelectricity)

ROMANOV, V.A.

Geology of the northwestern margin of the Tirylyan syncline. Vop.
geomorf. i geol. Bashk. no. 2:136-138 '59. (MIRA 14:4)
(Chernyy Valley--Geology, Structural)

89272

9.4/77
26.2420

S/181/61/003/001/004/042
B102/B212

AUTHOR: Romanov, V. A.

TITLE: The limited applicability of the concept of the universal surface recombination rate in investigations of the kinetics of photoelectric processes

PERIODICAL: Fizika tverdogo tela, v. 3, no. 1, 1960, 32-35

TEXT: A surface recombination rate s at the boundary of a neutral region of a semiconductor can only be defined significantly if s has the same value for different photoelectric effects. In this case, the ratio of the complex amplitudes of any two effects has to be independent of the surface recombination; the author has studied such a case. The present paper presents the experimental results that verify the exclusion of the surface recombination rate. For this purpose, the dependence of the effective times of photoconductivity and photomagnetic e.m.f. upon the amount of the external electric field has been investigated. The recombination rate can be changed by the latter over a wide range. The use of a variable field strength (square pulses symmetrical with respect to zero) made it possible

Card 1/4

69272

X

The limited applicability of the...

S/181/61/003/001/004/042
B102/B212

to exclude the effect of slow surface states almost completely and to measure the effective times of photoconductivity (τ_g) and photomagnetic effect ($\tau_{ph.m.}$) with an error of less than 1%. The experiments were

performed with a vacuum of 10^{-7} mm Hg, in an apparatus which had been described earlier (Refs. 4, 6). Results of measurements on 6 germanium specimens are represented graphically in Figs. 1 and 2. The specimens had to satisfy the following requirements: 1) Homogeneity with respect to resistivity ρ , the volume photo-e.m.f. being small with respect to the photomagnetic e.m.f. (2%); 2) large length of the specimen as compared to the diffusion length; 3) homogeneity with respect to lifetime of the minority carriers, because $\text{grad } \tau \neq 0$ entails a dependence of τ_g and $\tau_{ph.m.}$ on the modulation frequency of light; 4) the effective time of the photomagnetic effect has to be constant if the magnetic field changes; 5) no extraction of minority carriers from the electrodes; and 6) constant temperature of the specimen during the measurements. Fig. 1 shows τ_g (curve a) and τ_{vol} (curve a'), i.e., the volume lifetime, as functions of the amplitude V of the external field for antimony-doped n-type germanium

Card 2/4

89272

S/181/61/003/001/004/042
B102/B212

The limited applicability of the...

($\delta = 5.9 \text{ ohm.cm}$). Fig. 2 shows analogous curves which were obtained for Ni-doped p-type and Co-doped n-type germanium ($\delta = 3.8$ and 10.4 ohm.cm , respectively); $T_\delta(V)$ and $T_{\text{vol}}(V)$ for p-type specimens are represented by the curves a and a', those for n-type Ge by b and b'. Errors in the calculation of T_{vol} and $T_{\text{ph.m.}}$ were $\pm 0.4\%$ and $\pm 0.7\%$ for n-type Ge, and $\pm 0.6\%$ and $\pm 1.0\%$ for p-type Ge. The fact that for some specimens the values of T_{vol} are a function of the external field, shows that the application of the theory which, by introducing a universal surface recombination rate, describes the various effects that take place in regions close to the surface is limited. The author thanks Academician of the AS UkrSSR V. Ye. Lashkarev and E. I. Rashba for their interest. There are 2 figures and 6 references: 4 Soviet-bloc and 2 non-Soviet-bloc.

ASSOCIATION: Institut fiziki AN USSR Kiyev (Institute of Physics,
AS UkrSSR, Kiyev) ✓

SUBMITTED: May 7, 1960

Card 3/4

89272

The limited applicability of the...

S/181/61/003/001/004/042
B102/B212

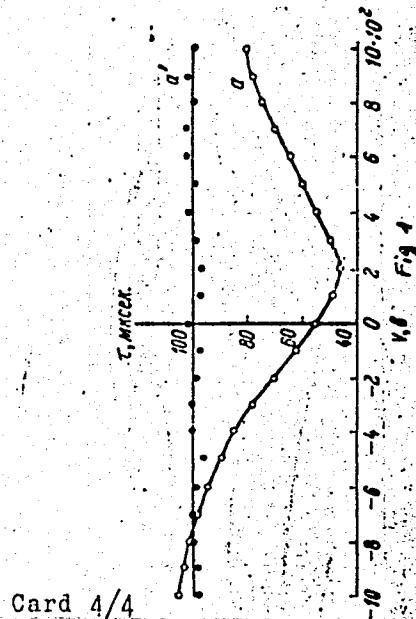


Fig. 1

Card 4/4

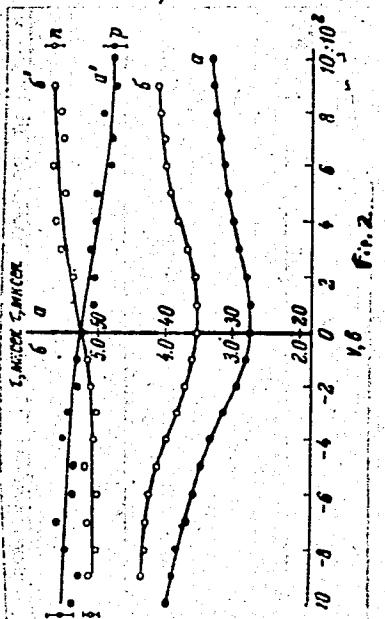


Fig. 2

83708

S/056/60/038/004/001/048
B019/B070**24.6720**AUTHORS: Romanov, V. A., Iodko, M. G., Tuchkevich, V. V.

TITLE: Long-lived Lutecium Isotopes /9

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,
Vol. 38, No. 4, pp. 1019-1026

TEXT: The authors have studied the conversion spectra of Lu¹⁷³ - and Lu¹⁷⁴ isotopes. The measurements were made with a spectrometer with double focusing. Two different sources were used. Source I was separated from a Ta target 10-12 hours after it had been exposed to 660 Mev protons for a quarter of an hour; source II was separated from a Ta target which was exposed for about three months. Source II was used previously by B. S. Dzhelepov and others (Refs. 1,2). Most of the conversion lines found belong to Lu¹⁷³ whose relative intensities and energies (Table 1) are well known. The values obtained here agree with those of Yu. G. Bobrov and others (Ref. 1). The relative intensities of γ -rays measured by G. M. Gorodinskiy and others (Ref. 3) and collected in Table 2 are then

Card 1/3

X

Long-lived Lutecium Isotopes

83708

S/056/60/036/004/001/048

B019/B070

discussed. The level scheme of Yb^{173} (Fig. 2) is discussed with the help of the well known level scheme of Lu^{173} . A number of lines were found in the long-lived spectra of Lu isotopes which do not belong to Lu^{173} . The energy values of these lines are given in Table 3, and their identifications are discussed in detail. The authors are convinced that they could belong only to Lu^{174} . A possible variant of the decay scheme is discussed with the help of Fig. 3. The spins of the excited levels are discussed on the assumption that the ground state of $_{71}\text{Lu}_{103}^{174}$ has either the spin 6^- or 1^- . The half life of Lu^{174} is 165 ± 5 days. The lines found here are attributed to the M1 and M3 transitions ($E_\gamma = 44.7$ kev, and $E_\gamma = 59.0$ kev, respectively) of the isomeric states of Lu^{174} . The half life of the isomeric state is given to be 90 days. The authors thank Professor V. M. Kel'man for his interest in the work and valuable advice. L.A. Sliv and I. M. Band (Ref. 4) are mentioned. There are 3 figures, 4 tables, and 13 references: 6 Soviet, 6 US, and 1 Dutch.

Card 2/3

83708

Long-lived Lutecium Isotopes

S/056/60/038/004/001/048
B019/B070

ASSOCIATION: Leningradskiy fiziko-tehnicheskiy institut Akademii nauk
SSSR (Leningrad Institute of Physics and Technology of the
Academy of Sciences, USSR)

SUBMITTED: August 7, 1959

X

Card 3/3

24.6720
83709S/056/60/038/004/002/048
EC19/B070AUTHORS: Iodko, M. G., Tuchkevich, V. V., Romanov, V. A., Kresin, O.M.TITLE: An Investigation of the Relative Intensities of Some
Conversion Lines in the Spectrum of Neutron-deficient
Lu-Isotopes //PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,
Vol. 38, No. 4, pp. 1027-1030TEXT: The authors have investigated the strong lines of the conversion
spectrum of the neutron deficient Lu-isotopes by means of a prism
spectrometer. The two sources used here were obtained by separating the
Lu-isotope fraction from a Ta-target which had been irradiated by 660-Mev
protons. With the first source, the energies and the intensities of the
conversion lines 66.70 and 75.85 kev in the Lu¹⁷¹ spectrum were measured,
and 78.70 and 90.55 kev lines in the spectrum of Lu¹⁷². The relative
intensities of the 84.19-kev L-lines in the Lu¹⁷⁰-spectrum, the 87.30-kev
L-lines in the Lu¹⁶⁹-spectrum, and the 181.4 kev L-lines in the Lu¹⁷²-
Card 1/3

83709

An Investigation of the Relative Intensities of S/056/60/038/C04/002/048
Some Conversion Lines in the Spectrum of Neutron- B019/B070
deficient Lu-Isotopes

spectrum were measured with the second source. As the second source was very thick, the data obtained with it are to be considered only as rough values. The energies of the lines were measured by a method developed earlier by Romanov (Ref. 4). The energies of the conversion lines, and the calculated values of the transition energies are given in Table 1. The conversion lines are represented graphically in Fig. 1. The ratios of the L-conversion lines of the transitions with 66.74 and 75.89 kev in the

Lu^{171} -spectrum are given in Table 2. The analogous ratios for 78.74 kev-, 90.66 kev-, and 181.4 kev in the Lu^{172} -spectrum are given in Table 3. The theoretical and the experimental values are compared in the tables 2 and 3, and the multiplicities of γ -transitions are derived from the corresponding L-sub-shell intensities. L. A. Sliv and I. M. Band (Ref. 10) are mentioned. There are 1 figure, 3 tables, and 16 references: 6 Soviet, 8 US, and 2 Dutch.

Card 2/3

83709

An Investigation of the Relative Intensities of S/056/60/038/004/032/048
Some Conversion Lines in the Spectrum of Neutron- B019/B070
deficient Lu-Isotopes

ASSOCIATION: Leningradskiy fiziko-tehnicheskiy institut Akademii nauk
SSSR (Leningrad Institute of Physics and Technology of the
Academy of Sciences, USSR)

SUBMITTED: August 7, 1959

Card 3/3

PHASE I BOOK EXPLOITATION

SOV/4138

Kruglikov, Abram Vladimirovich, Candidate of Technical Sciences, and V.A. Romanov

Proizvodstvo vysokoprochnykh svarnykh tyagovykh tsepey; sovremennoye sostoyaniye i perspektivy razvitiya (Manufacture of High-Strength Welded Hoisting Chains; Present State and Future Development) Moscow, 1959. 58 p. 1,000 copies printed.

Sponsoring Agencies: Akademiya nauk SSSR. Otdel nauchno-tehnicheskoy informatsii VINITI. Sektor mashinostroitel'noy promyshlennosti; Gosudarstvennyy nauchno-tehnicheskiy komitet Soveta ministrov SSSR.

Tech. Ed.: N.G. Goncharov.

PURPOSE: This booklet is intended for technical personnel dealing with the manufacture of hoisting chains.

COVERAGE: The author describes methods and machinery used in the manufacture of studded and unstudded hoisting, crane, and conveyor chains in the Soviet Union and other countries. He deals mainly with automatic manufacturing processes of welded pitch chains for the mining industry. No personalities are mentioned.

Card 1/3